

REMARKS/ARGUMENTS

The Office Action of December 9, 2004, has been carefully considered.

It is noted that the drawings are objected to for not clearly showing some of the features recited in the claims.

The specification is objected to for containing various informalities.

Claims 1-18 are also objected to for containing various informalities.

Claims 1-18 are further rejected under 35 U.S.C. §112, second paragraph.

Claim 16 is rejected under 35 U.S.C. §112, first paragraph.

Claims 1-7, 11-13 and 17-18 are rejected under 35 U.S.C. §102(a) over any one of the patents to Conheady et al., the patent to Boess et al., the patent to Bartko et al., or the patent to Kitagawa et al.

Claims 14-16 are rejected under 35 U.S.C. §103(a) over Conheady et al. in view of Kitagawa et al.

Claims 8-10 are rejected under 35 U.S.C. §103(a) over Conheady et al. in view of applicant's admitted prior art.

In connection with the objection to the disclosure, applicant has amended the specification to include section headings and to delete reference to specific claim numbers. With these changes, it is respectfully submitted that the objection to the specification is overcome and should be withdrawn.

In view of the Examiner's objections to and rejections of the claims, applicant has canceled claim 17 and amended claims 1-16 and 18.

Applicant has amended the claims to correct the informalities pointed out by the Examiner. In view of these changes, it is respectfully submitted that the objection to claims 1-18 as containing informalities is overcome and should be withdrawn.

It is further respectfully submitted that the claims now on file particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended the claims to address the instances of indefiniteness cited by the Examiner. In view of these considerations, it is respectfully submitted that the rejection of claims 1-18 under 35 U.S.C. §112, second paragraph, is overcome and should be withdrawn.

Regarding the rejection of claim 16 under 35 U.S.C. §112, first paragraph, applicant has amended this claim to recite that the space measuring unit is displaceable parallel to the axis of rotation. Support for this is found on page 8, lines 26-28 of the specification as originally filed. Thus, it is respectfully submitted that the rejection of claim 16 under 35 U.S.C. §112, first paragraph, is overcome and should be withdrawn.

It is respectfully submitted that the claims now on file differ essentially and in an unobvious, highly advantageous manner from the methods and constructions disclosed by the references.

Turning now to the references, and particularly to the patent to Conheady et al., it can be seen that this patent discloses a method and apparatus for optically scanning a vehicle wheel. Conheady et al. scan the vehicle wheel in one measurement plane which intersects the rim surface of the wheel at an approximately right angle, for successive steps. With such a method, the contour configurations of the wheel, particularly of the wheel part which is substantially parallel to the wheel axis, is determined. The measurement plane in which Conheady et al. scan the vehicle wheel is perpendicular to the planes in which the wheel is scanned according to the presently claimed invention. The scanned points of the presently claimed invention are on circles or peripheries around the axis of rotation, whereas the scanned points of Conheady et al. are approximately positioned in a scanning direction parallel to the axis of rotation for determining the contour of the wheel. Conheady et al. require a pivotal movement of the light source and of the receiver for the successive measuring steps during scanning (see paragraph 31 of Conheady et al.). In contrast to this, the light source 3 and the space measuring device 4 of the presently claimed invention remain unchanged when scanning the two peripheries around the axis in the planes 19, 20. For achieving the scanning in the peripheries, the vehicle wheel is rotated. Applicant makes reference to page 6 of the specification which describes this operation. Thus, Conheady et al. do not disclose the features recited in independent claims 1 and 11.

Relative to claim 2, Conheady et al. do not teach determining the angle of inclination between the geometrical wheel axis and the rotation axis.

Relative to claim 3, Conheady et al. teach measurement points scanned on a wheel surface which is substantially parallel to the wheel axis in order to determine the contour of the wheel surface. Conheady et al. do not teach scanning measurement points on two peripheries

around the rotation axis, which peripheries are perpendicular to the contour determined by Conheady et al.

The patent to Boess et al. discloses a method and apparatus for determining the position of a wheel mounted on a vehicle. Boess do not disclose a method and apparatus in which the wheel is mounted on a main shaft of a wheel balancing machine, as in the presently claimed invention.

The patent to Kitagawa et al. discloses a vehicle wheel alignment measuring apparatus. Here too, the vehicle wheel is mounted on the axle of the vehicle, and not to the main shaft of the wheel balancer, as in the presently claimed invention.

The patent to Bartko et al. discloses an intelligent sensor method and apparatus for an optical wheel alignment machine. Here as well, the wheel is mounted to the axle of the vehicle for determining alignment of the wheel. There is no teaching concerning a method or apparatus in which the wheel is mounted to the main shaft of a wheel balancing machine, as in the presently claimed invention.

In view of these considerations, it is respectfully submitted that the rejection of claims 1-7, 11-13 and 17-18 under 35 U.S.C. §102(a) over any of the above discussed references is overcome and should be withdrawn.

The Examiner combined Conheady et al. with Kitagawa et al. in determining that claims 14-16 would be unpatentable over such combination. Applicant respectfully submits that the combination of Conheady et al. and Kitagawa et al. does not teach or suggest an apparatus having the features recited in the claims presently on file and as discussed above in connection with the rejection of the independent claims. Thus, it is respectfully submitted that the rejection of claims 14-16 under 35 U.S.C. §103(a) is overcome and should be withdrawn.

As for the rejection of claims 8-10 under 35 U.S.C. §103(a), the admitted prior art does not provide any teaching of the features missing from Conheady et al. as discussed above in connection with the rejection of claim 1. Thus, a combination of the admitted prior art and Conheady et al. does not teach the features of claims 8-10. In view of these considerations, it is respectfully submitted that the rejection of claims 8-10 under 35 U.S.C. §103(a) over a combination of applicant's admitted prior art and Conheady et al. is overcome and should be withdrawn.

Turning now to the objection to the drawings, applicant respectfully submits that the claimed planes are indicated with the reference numerals and 19 and 20 in Figs. 1 and 2. The planes 19 and 20 extend perpendicularly to the axis of rotation 1. The orientation of the sensor 6 relative to the wheel is shown in Figs. 1 and 2 in that the sensor 6 is mounted to the end of the shaft 15. Such sensors are well known for use in wheel balancers. As evidence of this, applicant encloses herewith a copy of U.S. Patent No. 4,457,172 wherein Fig. 7b shows a rotary angle sensor mounted to the end of the main shaft 162. The rotary angle sensor is described in column 7 of the patent beginning with line 39. Thus, applicant respectfully submits that the planes 19, 20 and the sensor 6 are clearly shown in the drawings of the present application so as to be understandable by those skilled in the art. As such, applicant submits that no amendments to the drawings are necessary since the originally filed drawings show the claimed planes and the arrangement of the sensor 6 relative to the wheel.

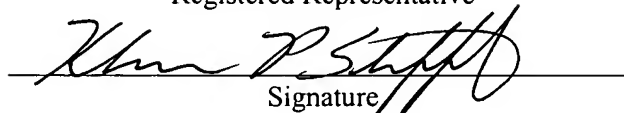
In view of these considerations, it is respectfully submitted that the objection to the drawings is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on April 11, 2005:

Klaus P. Stoffel

Name of applicant, assignee or
Registered Representative

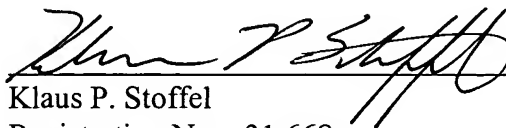

Signature

April 11, 2005

Date of Signature

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Respectfully submitted,


Klaus P. Stoffel

Registration No.: 31,668

OSTROLENK, FABER, GERB & SOFFEN, LLP
1180 Avenue of the Americas
New York, New York 10036-8403
Telephone: (212) 382-0700